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(21) Application number: **07120448**(22) Date of filing: **24.04.95**(62) Division of application: **01232982**(71) Applicant: **SHINETSU QUARTZ PROD CO LTD**(72) Inventor: **YAMAGATA SHIGERU**  
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**MATSUTANI TOSHIKATSU****(54) OPTICAL SYSTEM PART FOR LASER BEAM AND OPTICAL SYSTEM PART FOR LITHOGRAPHIC APPARATUS****(57) Abstract:**

**PURPOSE:** To provide an optical system part free from the lowering of transmittance and the variation of the refractive index distribution even after the radiation of excimer laser beam over a long period, having improved resistance to laser light and especially useful for a lithographic apparatus.

**CONSTITUTION:** This optical system part to be used for a

laser light having an ultraviolet wavelength range of about 190-400nm, especially an optical system part for a lithographic apparatus is formed of a high-quality synthetic quartz glass material having an OH-group concentration of  $\leq 100\text{ppm}$ , free from stria in three directions and having a refractive index variation range ( $\Delta n$ ) set to  $\leq 2 \times 10^{-6}$  in the working wavelength range. The optical system part is essentially free from oxygen defect in the glass texture and incorporated with hydrogen gas.

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